C. Evaluate and Improve Policies for Qualified Waste Conversion Technologies

Establish policies to enable and encourage the development and implementation of qualified waste conversion technologies that maximize front-end recovery of materials for recycling, meet strict performance standards that protect public health and safety and the environment, and lead to a net reduction in air emissions.

- *Timeframe*: Implemented 10% by 2012, 30% by 2020 and 100% by 2050.
- *GHG Reduction Potential*: By 2012 - 0.5 MMT, by 2020 - 1.4MMT and by 2050 - 4.7 MMT. (Assumes 42 million tons of waste per year, 60 percent biogenic, 9 MMBtu/ton, 35 percent conversion efficiency, replaces natural gas combustion at 52.78kg/MMBtu, 12.5 kg/ton transportation avoidance.)
- *Ease of Implementation*: Moderate to difficult.
- *Co-benefits / Mitigation Requirements*: GHG reduction benefits would flow from diverting waste from landfills (a significant source of methane emissions) and providing feedstock for bio-mass electricity and fuel production. Potential pollutant emissions and localized impacts would need to be evaluated and mitigated.
- *Responsible Parties*: State and local governments.

Problem: Over 80 percent of California's waste stream is organic. The alternatives for waste management include recycling, composting, landfill or transformation. Waste conversion refers to the wide range of transformation technologies that use thermal, chemical, or biological processes to transform post-recycled waste to produce fuels and other chemicals, and it does not include incineration. A detailed discussion of various waste conversion technologies can be found in Appendix IV.

There are several barriers that have limited the expansion of these technologies, including:

- The facilities are very expensive, and this barrier is exacerbated by the artificially low landfill tipping fees that do not factor in the greenhouse gas impacts of landfill methane emissions.
- Current state law does not recognize waste conversion as "diversion."
- These facilities have faced strong local opposition throughout the state because of health and environmental concerns, resulting in siting and permitting difficulties.
- Thorough data on the emissions from thermochemical and biochemical conversion technologies has not been collected.

Possible Solution:
To make conversion an option for waste management, the state should:

- Continue to support funding for research and development of demonstration facilities, where independent third party testing can verify accurate data for these facilities in California.
- Evaluate the barriers listed above for each individual conversion technology and consider environmentally-protective policies to address these barriers.
- Establish a viable permitting process for waste conversion facilities that protects the public and the environment, and addresses each technology and feedstock material input on an

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Deleted: Current state law does not recognize waste conversion as "diversion" and waste conversion faces prescriptive permitting rules and negative public perception that hinder its implementation. The most problematic prescriptive definition in current statutes is probably PRC section 40117 (definition of "Gasification") which is scientifically inaccurate and has a requirement for four absolute zeros for these new technologies: zero air emissions, zero use of oxygen, zero ground water discharge and zero hazardous waste.¶
¶
Although these restrictions are more stringent than any other industry must meet, gasification could meet all of them except the use of oxygen, which may be required in some cases. Superior uses of waste should not be prevented by state policy. ¶

Deleted: Over 80 percent of California's waste stream is organic. The alternatives for waste management include recycling, landfill or transformation. Waste conversion is the transformation alternative that uses thermal, chemical, or biological processes to transform post-recycled waste to produce green fuels and other chemicals. It does NOT include incineration. Studies show that conversion can recover materials that would not be feasibly recyclable, while reducing pollution and life-cycle environmental impacts. To make conversion an option for waste management, we should:

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individual basis and in a full life-cycle comparison to source reduction, reuse, recycling and composting alternatives.

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Deleted: Evaluate waste conversion, and make a recommendation based on performance standards for viable conversion technologies to qualify for limited or full diversion credit, by modifying the criteria laid out by AB 2770, 2002.¶
Continue to support funding for research and development of demonstration facilities, where independent third party testing can verify accurate data for these facilities in California¶